

REMARKS

This Amendment and Response to non-final Office Action is being submitted in response to the non-final Office Action mailed June 30, 2005. Claims 16-19 are pending in the Application. Claims 16-19 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Cromwell (U.S. Pat. No. 6,084,178) in view of Verdiell et al. (U.S. Pat. No. 6,252,726). New claim 20 is added.

In response to these rejections, claim 16 has been amended to further clarify the subject matter, which Applicant regards as the invention, without prejudice or disclaimer to continued examination on the merits. These amendments are fully supported in the Specification, Drawings, and Claims of the Application and no new matter has been added. Based upon the amendments, reconsideration of the Application is respectfully requested in view of the following remarks.

Rejection of Claims 16-19 Under 35 U.S.C. 103(a) - Cromwell in view of Verdiell et al.:

Claims 16-19 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Cromwell (U.S. Pat. No. 6,084,178) in view of Verdiell et al. (U.S. Pat. No. 6,252,726). Specifically, the Examiner states that it would have been obvious to one of ordinary skill in the art to use the laser diode and optic cable of Verdiell et al. in the assembly of Cromwell, because it allows for the easy replacement of a component should it become defective.¹

The Examiner equates the anchor bracket docking assembly² of Cromwell with the Applicant's laser support blocks.³ As described by Cromwell, the anchor bracket docking assembly is "positioned on the printed circuit board to ensure proper insertion of the FRU [field replaceable unit] into the mounting assembly."⁴ As shown in the figures, the FRU is completely contained within the shell formed by the printed circuit board, the anchor bracket docking assembly, and the heatsink.⁵ This is necessary since the anchor bracket docking assembly is to provide containment for electromagnetic interference emitted from the VLSI package.⁶

However, by shielding the entirety of the VLSI package, Cromwell provides no ingress or egress to the FRU. This makes Cromwell totally unsuitable for use with laser diodes and optic cables, wherein the optic cable must be connected to the laser diode.

Applicant has amended claim 16 to more distinctly point out that the optic cable must be granted access to the laser diode. As amended, claim 16 recites:

A method of connecting an assembly to a printed circuit board, the assembly including a heatsink having a base plate portion and a plurality of fins extending from and integral with the base plate portion, a laser diode having at least one lead, a

¹ See Office Action 6/30/2005, page 3, paragraph 1.

² US Pat No 6,084,178, Fig. 2, Ref. No. 13.

³ See Application as filed, Figs. 1-4, Ref. No. 14.

⁴ US Pat No 6,084,178, Col. 6, lines 56-61.

⁵ Id., Figs 1-5.

⁶ Id., Col. 8, lines 42-49.

plurality of interchangeable spacer sleeves, and at least one laser support block, comprising:

connecting the laser diode to the heatsink;

interposing the at least one laser support block between the heatsink and the printed circuit board;

inserting a plurality of threaded connection mechanisms through apertures in said heatsink and providing each of said attachment mechanisms with a said interchangeable spacer sleeve thereabout; and

connecting the heatsink to mount holes in the printed circuit board utilizing said plurality of threaded connection mechanisms, wherein a portion of a connection force connecting the heatsink to the printed circuit board is transferred through the at least one laser support block to couple the at least one lead of the laser diode with at least one pad of the printed circuit board; and

connecting an optic cable to said optic cable at said at least one lead.

Claim 16 now requires an optic cable attached to the laser diode's lead.⁷ This necessitates access to the laser diode, which anchor bracket docking assembly of Cromwell simply does not provide. Claim 16 has been further amended to more specifically claim the mounting structure of the heatsink. The spacer sleeves of currently amended claim 16 mount the heatsink to the printed circuit board such that access to the laser diode is inherent.⁸ Spacer sleeves provide support to the heat sink. They are interchangeable so as to allow a similar heatsink to be used for different sized diode lasers. Further, the spacer sleeves are separate from the laser support block so as to allow easy access of the fiber cable to the diode laser. Cromwell does not teach the newly added limitations of claim 16.

In the Office Action, the Examiner admits that Cromwell does not disclose that the component is a laser diode or that an optic cable is connected to the laser diode to receive an optical signal from the laser diode. Instead the Examiner relies on Verdiell et al. to supplement the teachings of Cromwell.

As stated above, the anchor bracket docking assembly of Cromwell is simply not adaptable for use with a laser diode. The Applicant has amended claim 16 to show that exterior access to the laser diode is required, and that Cromwell teaches away from this feature. Applicant has further amended claim 16, limiting the mounting structure of the

⁷ See Application as filed, Figures 1-4, Ref. No. 104 and supporting text.

⁸ See Application as filed, Figures 1-4, Ref. No. 32; page 7 lines 14-19.

heatsink such that access to the laser diode by an optic cable is inherent to the claimed mounting structure.

The combination of Cromwell and Verdiell et al. simply does not teach the limitations of amended claim 16.

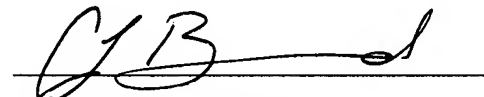
Therefore, Applicant submits that the rejection of claims 16-19 under 35 U.S.C. 103(a) as being unpatentable over Cromwell (U.S. Pat. No. 6,084,178) in view of Verdiell et al. (U.S. Pat. No. 6,252,726) has now been traversed and respectfully requests that this rejection be withdrawn.

CONCLUSION

Applicant would like to thank Examiner for the attention and consideration accorded the present Application. Should Examiner determine that any further action is necessary to place the Application in condition for allowance, Examiner is encouraged to contact undersigned Counsel at the telephone number, facsimile number, address, or email address provided below. It is not believed that any fees for additional claims, extensions of time, or the like are required beyond those that may otherwise be indicated in the documents accompanying this paper (**a one-month extension is indicated**). However, if such additional fees are required, Examiner is encouraged to notify undersigned Counsel at Examiner's earliest convenience.

Respectfully submitted,

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